

**In the Claims**

Please ~~amend~~ the claims as follows:

1. (Once Amended) A method of stabilizing the polarization of a vertical cavity surface emitting laser (VCSEL) device, comprising:

A2 forming a plurality of VCSEL elements capable of emitting substantially a single mode radiation of substantially the same wavelength and arranged to allow phase coupling between at least two of the plurality of VCSEL elements, and

initiating emission of radiation by injecting current into the at least two of the plurality of VCSEL elements to produce phase-coupled radiation, wherein the polarization direction of each of the at least two of the plurality of VCSEL elements remains substantially constant during operation.

A3 6. (Once Amended) The method of claim 1, wherein the at least two of the plurality of VCSEL elements are top-emitting VCSEL elements.

A4 12. (Once Amended) The method of claim 1, wherein the at least two of the plurality of VCSEL elements are arranged as an array defined by a phase-coupling region formed on top of a top Bragg reflector of the VCSEL device.

21. (Once Amended) A polarization-stable VCSEL device comprising:

two to five phase-coupled VCSEL elements placed in an array;  
a phase-coupling region placed between the phase-coupled VCSEL elements,

wherein, during operation, the polarization direction of each of the VCSEL elements remains substantially constant due to the phase-coupling of the VCSEL elements.

22. (Once Amended) A polarization-stable VCSEL device comprising:

a plurality of phase-coupled VCSEL elements placed in an array;

a phase-coupling region placed between each of said plurality of phase-coupled VCSEL elements, wherein during operation the polarization direction of each of the VCSEL elements remains substantially constant in a pre-defined polarization direction due to the phase-coupling of the VCSEL elements; and

a polarization adjusting means provided in one or more of the phase-coupled VCSEL elements to select the pre-defined polarization direction.

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A6  
35. (Once Amended) The polarization-stable VCSEL device of claim 21 further comprising a grid layer.

Please add the following new claims:

39. A vertical cavity surface emitting laser array device comprising:

A7  
a first reflector;

a second reflector;

a cavity placed between said first and second reflector;

a plurality of vertical cavity surface emitting laser elements formed on said first reflector; and

a phase coupling region separating each of said plurality of vertical cavity surface emitting laser elements,

whereby the polarization direction of at least two of said plurality of vertical cavity surface emitting laser elements remain substantially constant during operation.

40. A vertical cavity surface emitting laser array device as in claim 39 wherein:

said phase coupling region comprises a metal grid.

41. A vertical cavity surface emitting laser array device as in claim 39 wherein:

said phase coupling region comprises a reflectivity difference between a resonator region of one of said plurality of vertical cavity surface emitting laser elements and said phase coupling region.

42. A vertical cavity surface emitting laser array device as in claim 41 wherein:

A7 the reflectivity difference is selected to be within 0.50 and 15 percent.

43. A vertical cavity surface emitting laser array device as in claim 39 further comprising:

means, associated with at least two of said plurality of vertical cavity surface emitting laser elements, for providing a desired polarization direction.

44. A method of stabilizing the polarization of a vertical cavity surface emitting laser array device comprising:

forming a plurality of vertical cavity surface emitting laser elements; and

phase coupling at least two of the plurality of vertical cavity surface emitting laser elements,